

Denver 2014 Approved Concrete Mix Designs - list expires July 1, 2015

report rev: 7-1-2014 ->Questions?
Call 303-446-3421,720-913-8834

City of Denver-Public Works Engineering-Right of Way Services-Engineering+Regulatory+Analytics Office and Construction Engineering Section

APPROVED means that Supplier has submitted information and test data indicating knowledge and understanding of our specifications.

Supplier or Contractor is always responsible for Field Quality Control Tests and compliance with (results shall meet) City

Field Verification of High Early Strength requirements for allowing traffic or loading shall be agreed upon with Project Inspector or Engineer.

Use the CDOT concrete Class required in Project Specs; or as follows under City Rules and Regulations

Use 'CDOT Class P' or 'MGPEC-Paving' spec mix for concrete street and alley (vehicular) paving and for features that's tied or doweled to: attached curb and gutter, curb ramps, driveways, sidewalks. Also use for cross pans and bus pads on any street. Project Specifications may require this on other applications.

Use CDOT 'Class D' spec mix for sewer inlets, manhole bases and walls. Also bridge structures or other structures as individual Project Specifications may require.

Use 'Denver4000' spec mix for flatwork (curb, gutter, sidewalk, curb ramps, small driveways) on asphalt streets. Also detached sidewalks on concrete streets. Project Specs may override this to require Class B or D or P.

Calcium Chloride is NOT allowed in any mix, except by written approval of Inspector. Only Non-Chloride accelerators or admixtures shall be used. Non-Chloride accelerators are recommended for integral curb + gutter placed in hot dry weather, especially facing the sun during curing. ==>> Curing compounds applied April 1st to Sept 14th shall meet ASTM C-309. ==>>Cure+Sealer compounds shall be used September 15th through March 31st and shall meet ASTM C-1315 Type II, Class B for gray concrete; ASTM C-1315 Type I, Class A for colored concrete to help resist winter de-ice-ing chemicals.

Concrete Mix Supplier-Name

Approval List is not complete, some mixes have not been entered

Intended to meet specification for CDOT-Class, or 'Denver4000'

CCD Approval or
Revised Date

Mix

Intended for
Hand(H) or
Machine(M)

Max Slump
allowed, inch,
City spec
(>>CDOT

Air Spec, %, based
on Max Nom
aggregate size
(C94, ACI 301)

water to
cement+
flyash ratio
% flyash

Strength Spec Qualification per ACI criteria (psi) by:

trial mix
design
mix date:

strength
history based
last date

Approval Notes

CDOT 601.04
Sulfate
Resistance Class

Max Nominal
Aggregate size,
(1.5" requires
6x12 cylinder)

Aggregate Industries

Latest Revision or Approval for this Supplier:

1/7/2013

CDOT - D = Deck

5/15/2014 2/25/2015	9450100	Hand	5" max OK for CDOT (has req'd Water Reducer for Class D)	5.0% to 8.0% for 3/4 inch agg.	0.442 0%	4827 10/7/2013	0	4600 @ 7 Days, 6027 @ 28 Days mix design UnitWeight (pcf)= 144.5	0.75 inch
5/3/2013 1/17/2012	9458146	Hand	5" max OK for CDOT (has req'd Water Reducer for Class D)	5.0% to 8.0% for 3/4 inch agg.	0.370 26%	0 1/26/2012	0	4510 @ 4 days; 4860 @ 7 days mix design UnitWeight (pcf)= 142.6	0.75 inch
2/26/2014	9458480	Hand	5" max OK for CDOT (has req'd Water Reducer for Class D)	5.0% to 8.0% for 3/4 inch agg.	0.000 30%	4489 6/28/2012	0	3500 @ 3 Days, 4200 @ 7 Days, 5650 @ 28 days mix design UnitWeight (pcf)= 142.2	0.75 inch

Concrete Mix Supplier-Name

Approval List is not complete, some mixes have not been entered

Intended to meet specification for CDOT-Class, or 'Denver4000'

CCD Approval or Revised Date	Mix Supplier's - Mix ID#	Intended for Hand(H) or Machine(M)	Max Slump allowed, inch, City spec (>>CDOT)	Air Spec, %, based on Max Nom aggregate size (C94, ACI 301)	water to cement+ flyash ratio % flyash	Strength Spec Qualification per ACI criteria (psi) by: trial mix design mix date:	strength history based last date	Approval Notes	CDOT 601.04 Sulfate Resistance Class	Max Nominal Aggregate size, (1.5" requires 6x12 cylinder)
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CDOT - E = FastTrack

2/25/2015	9456986	Hand	6" max OK for CDOT (has req'd Water Reducer for Class D)	5.0% to 8.0% for 3/4 inch agg.	0.338 20%	6390 5/30/2013	0	6150 @ 7 Days, 7590 @ 28 Days mix design UnitWeight (pcf)=	145.0	0.75 inch
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CDOT - S40

5/3/2013 1/17/2012	9584741	Hand	7.5" max OK for CDOT (has req'd Water Reducer for Class D)	5.0% to 8.0% for 3/4 inch agg.	0.361 5%	6540 6/24/2011	0	5740 @ 3 days; 7030 @ 7 days; 7930 @ 28 days mix design UnitWeight (pcf)=	143.2	0.75 inch
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Concrete Mix Supplier-Name

Approval List is not complete, some mixes have not been entered

Intended to meet specification for CDOT-Class, or 'Denver4000'

CCD Approval or
Revised Date

**Mix
Supplier's -
Mix ID#**

Intended for
Hand(H) or
Machine(M)

Max Slump
allowed, inch,
City spec
(>>CDOT

Air Spec, %, based
on Max Nom
aggregate size
(C94, ACI 301)

water to
cement+
flyash ratio
% flyash

Strength Spec Qualification per ACI criteria (psi) by:

trial mix
design
mix date:

strength
history based
last date

Approval Notes

CDOT 601.04
Sulfate
Resistance Class

Max Nominal
Aggregate size,
(1.5" requires
6x12 cylinder)

Bestway Concrete Co.

Latest Revision or Approval for this Supplier:

5/15/2014

CDOT - B = General

<u>7/2/2014</u> 4/7/2015	4531473	Machine	3.5" max OK for CDOT (has req'd Water Reducer for Class D)	5.0% to 8.0% for 3/4 inch agg.	0.439 20%	<u>4530</u> 11/26/2012	<u>0</u> #N/A	mix design UnitWeight (pcf)=	143.1	<div></div>	0.75 inch
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<u>7/10/2014</u> 4/7/2015	453149	Hand	5.8" max OK for CDOT (has req'd Water Reducer for Class D)	5.0% to 8.0% for 3/4 inch agg.	0.420 20%	<u>4597</u> 2/11/2014	<u>113</u> 5/6/2014	mix design UnitWeight (pcf)=	142.2	<div></div>	0.75 inch
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<u>7/2/2014</u> 4/7/2015	4531493	Hand	5" max OK for CDOT (has req'd Water Reducer for Class D)	5.0% to 8.0% for 3/4 inch agg.	0.439 20%	<u>4470</u> 11/26/2012	<u>0</u> #N/A	mix design UnitWeight (pcf)=	142.0	<div></div>	0.75 inch
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CDOT - BZ = Caisson

<u>7/2/2014</u> 4/7/2015	40303Z3	Hand	5" to 8"->only for drilled piers, caissons	5% to 8% for pier exposed to weather, not required for portion 3 feet below grade	0.446 20%	<u>4750</u> 11/26/2012	<u>0</u>	mix design UnitWeight (pcf)=	148.5	<div></div>	0.75 inch
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CDOT - D = Deck

<u>7/2/2014</u> 4/7/2015	4531473	Machine	3.5" max OK for CDOT (has req'd Water Reducer for Class D)	5.0% to 8.0% for 3/4 inch agg.	0.439 20%	<u>4530</u> 11/26/2012	<u>0</u> #N/A	mix design UnitWeight (pcf)=	143.1	<div></div>	0.75 inch
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<u>7/2/2014</u> 4/7/2015	4531493	Hand	5" max OK for CDOT (has req'd Water Reducer for Class D)	5.0% to 8.0% for 3/4 inch agg.	0.439 20%	<u>4470</u> 11/26/2012	<u>0</u> #N/A	mix design UnitWeight (pcf)=	142.0	<div></div>	0.75 inch
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Concrete Mix Supplier-Name

Approval List is not complete, some mixes have not been entered

Intended to meet specification for CDOT-Class, or 'Denver4000'

CCD Approval or
Revised Date

**Mix
Supplier's -
Mix ID#**

Intended for
Hand(H) or
Machine(M)

Max Slump
allowed, inch,
City spec
(>>CDOT

Air Spec, %, based
on Max Nom
aggregate size
(C94, ACI 301)

water to
cement+
flyash ratio
% flyash

Strength Spec Qualification per ACI criteria (psi) by:
trial mix design
strength history based
mix date: last date

Approval Notes

CDOT 601.04
Sulfate
Resistance Class

Max Nominal
Aggregate size,
(1.5" requires
6x12 cylinder)

CDOT - E = FastTrack

<u>9/24/2014</u> #N/A	256E13	Hand	10.25" max OK for CDOT (has req'd Water Reducer for Class D)	custom spec=need agg info, use 5.0% to 8.0% default	0.279 10%	<u>6670</u> 3/26/2013	<u>0</u>		mix design UnitWeight (pcf)=	144.3	<input type="text"/>	0.00 inch
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CDOT - P = Pavement

<u>7/2/2014</u> 4/7/2015	4531473	Machine	3.5" max OK for CDOT (has req'd Water Reducer for Class D)	5.0% to 8.0% for 3/4 inch agg.	0.439 20%	<u>4530</u> 11/26/2012	<u>0</u> #N/A		mix design UnitWeight (pcf)=	143.1	<input type="text"/>	0.75 inch
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<u>7/2/2014</u> 4/7/2015	4531493	Hand	5" max OK for CDOT (has req'd Water Reducer for Class D)	5.0% to 8.0% for 3/4 inch agg.	0.439 20%	<u>4470</u> 11/26/2012	<u>0</u> #N/A		mix design UnitWeight (pcf)=	142.0	<input type="text"/>	0.75 inch
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Denver4000-Flatwork

<u>7/2/2014</u> 4/7/2015	403149	H	3" to 5" hand, 1" to 3" machine	5.0% to 8.0% for 3/4 inch agg.	0.471 20%	<u>4203</u> 1/20/2014	<u>244</u> 3/12/2014		mix design UnitWeight (pcf)=	140.1	<input type="text"/>	0.75 inch
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Concrete Mix Supplier-Name

Approval List is not complete, some mixes have not been entered

Intended to meet specification for CDOT-Class, or 'Denver4000'

CCD Approval or
Revised Date

Aggregate Test expire
on:

**Mix
Supplier's -
Mix ID#**

Intended for
Hand(H) or
Machine(M)

Max Slump
allowed, inch,
City spec
(>>CDOT

Air Spec, %, based
on Max Nom
aggregate size
(C94, ACI 301)

water to
cement+
flyash ratio
% flyash

Strength Spec Qualification per ACI criteria (psi) by:

trial mix
design
mix date:

strength
history based
last date

Approval Notes

CDOT 601.04
Sulfate
Resistance Class

Max Nominal
Aggregate size,
(1.5" requires
6x12 cylinder)

Brannan Ready-Mix

Latest Revision or Approval for this Supplier:

9/13/2013

CDOT - B = General

<u>6/9/2014</u> #N/A	451161	Hand	3.0" to 5.0" set by supplier's mix design	custom spec=need agg info, use 5.0% to 8.0% default	0.411 20%	<u>3980</u> 2/4/2013	<u>0</u> #N/A	mix design UnitWeight (pcf)=	139.0	<div style="border: 1px dashed black; width: 40px; height: 20px;"></div>	0.00 inch
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CDOT - BZ = Caisson

<u>6/9/2014</u> #N/A	403067	Hand	5.0" to 8.0" set by supplier's mix design	5% to 8% for pier exposed to weather, not required for portion 3 feet below grade	0.449 20%	<u>0</u> 11/14/2013	<u>347</u> 8/14/2012	mix design UnitWeight (pcf)=	143.9	<div style="border: 1px dashed black; width: 40px; height: 20px;"></div>	0.00 inch
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CDOT - E = FastTrack

<u>6/9/2014</u> #N/A	423164	Hand	3.0" to 5.0" set by supplier's mix design	custom spec=need agg info, use 5.0% to 8.0% default	0.314 11%	<u>6410</u> 12/23/2013	<u>586</u> 12/20/2012	mix design UnitWeight (pcf)=	143.0	<div style="border: 1px dashed black; width: 40px; height: 20px;"></div>	0.00 inch
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CDOT - P = Pavement

<u>6/9/2014</u> #N/A	423161	Machine	3.0" to 5.0" set by supplier's mix design	custom spec=need agg info, use 5.0% to 8.0% default	0.442 20%	<u>3880</u> 3/14/2013	<u>-170</u> 11/16/2012	mix design UnitWeight (pcf)=	137.5	<div style="border: 1px dashed black; width: 40px; height: 20px;"></div>	0.00 inch
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Denver4000-Flatwork

<u>6/9/2014</u> #N/A	401102	Hand	3.0" to 5.0" set by supplier's mix design	custom spec=need agg info, use 5.0% to 8.0% default	0.455 0%	<u>4060</u> 1/3/2014	<u>0</u> #N/A	No available PE Stamp. mix design UnitWeight (pcf)=	142.7	<div style="border: 1px dashed black; width: 40px; height: 20px;"></div>	0.00 inch
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Concrete Mix Supplier-Name

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Intended to meet specification for CDOT-Class, or 'Denver4000'

CCD Approval or
Revised Date

Mix
Supplier's -
Mix ID#

Intended for
Hand(H) or
Machine(M)

Max Slump
allowed, inch,
City spec
(>>CDOT

Air Spec, %, based
on Max Nom
aggregate size
(C94, ACI 301)

water to
cement+
flyash ratio
% flyash

Strength Spec Qualification per ACI criteria (psi) by:

trial mix
design
mix date:
strength
history based
last date

Approval Notes

CDOT 601.04
Sulfate
Resistance Class

Max Nominal
Aggregate size,
(1.5" requires
6x12 cylinder)

Ready Mixed Concrete Co. (Boral)

Latest Revision or Approval for this Supplier:

6/4/2013

CDOT - E = FastTrack

1/13/2014

17912

Hand

5" max OK for CDOT
(has req'd Water
Reducer for Class D)

5.0% to 8.0% for 3/4
inch agg.

0.290

5540

0

Fast Track: theoretical 2340 at 10 hours, 3010
psi at 12 hours, Class P design strength at
approx. 24 hrs. 8.7 sack mix, 15% Flyash.
Supplier has maturity curve when needed

2

0.75

#N/A

15.00%

11/9/2012

#N/A

mix design UnitWeight (pcf)=

141.0

inch